

AMENDMENTS TO THE CLAIMS

Please cancel claims 1 to 10 and add the following new claims 11 to 20.

LISTING OF CLAIMS:

11. (new) A method for purifying carbon nanotubes, the method comprising:
immersing carbon nanotubes into a solution in which a template compound consisting of a plurality of receptor regions each including a conjugated ring structure and a spacer region that fixes the receptor regions is dissolved, and extracting specific carbon nanotubes into the solution; and
recovering the extracted carbon nanotubes.
12. (new) The method according to claim 11, further comprising:
immersing the carbon nanotubes into the solution in which the template compound including an oleophilic substituent in at least one of each of the receptor regions and the spacer region is dissolved, and extracting the specific carbon nanotubes into the solution; and
recovering the extracted carbon nanotubes.
13. (new) The method according to claim 11, wherein
the extracting includes performing ultrasonic irradiation.
14. (new) The method according to claim 11, wherein the recovering includes centrifuging.
15. (new) The method according to claim 11, wherein the extracting includes using tetrahydrofuran as a solvent.
16. (new) The method according to claim 11, wherein each of the receptor regions includes a porphyrin or pyrene skeleton.

17 (new) The method according to claim 16, wherein metal elements are coordinated on the porphyrin skeleton.

18. (new) A carbon nanotube, wherein metal elements that can be coordinated on a porphyrin skeleton is carried on a surface.

19. (new) The carbon nanotube obtained by the purifying method according to claim 11.

20. (new) A carbon nanotube, wherein
a half width of a peak appearing near a spectrum of 200 cm^{-1} obtained by a Raman scattering measurement is equal to or smaller than 20 cm^{-1} .